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ABSTRACT

A review of the current literature addresses the questions: What is the extent of placement difficulty or unemployment among the recent crops of Ph.D.'s? What are the causes and explanations given for whatever market imbalance exists?; What are the long-term employment market projections for Ph.D.'s?; and What employment-promoting steps can those individuals take who have invested their lives in graduate study? One conclusion is that the major change in response to the problem is the recognition that, when looked at from new perspectives, the Ph.D. job crisis is a problem of attitude among graduate students. (MSE)

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THE PH.D. JOB CRISIS David A. Trivett

"We see things not as they are, but as we are." Tomlinson.

Discussion continues on employment prospects for Ph.D.'s—defined as all individuals with earned doctorates such as Ph.D., Ed.D., D.A., but not law or medical degrees. The *New York Times Magazine* (Branch 1977, pp. 18, 20, 22) recently described how the precocious philosopher Kripke lost his position when a department was abolished. It refers to the plight of American philosophers, an estimated 2,500 of whom are seeking academic employment. Ellen Coughlin (1977, p. 3) describes the frantic job-seeking activity at the Modern Language Association (MLA) convention and the search for someone or something to blame. Speeches are delivered and seminars given at professional society meetings (see "Alternative Careers" 1976; Benderly 1977; Council of Graduate Schools... 1976; and so on). Despite the dialogue, doubt persists among some that there is a real present or prospective job shortage for Ph.D.'s. Many graduate students believe it will be the other guy who doesn't find a position in academia after years of study.

What is the extent of placement difficulty or unemployment among the recent crops of Ph.D.'s? What are the causes and explanations given for whatever market imbalance exists? What are the long-term employment market projections for Ph.D.'s? What employment-promoting steps can those individuals take who have invested their lives in graduate study?

Current Data on Ph.D. Placement

One perspective on the current placement success of Ph.D.'s can be formed from placement data compiled by professional associations, although caution is required in generalizing from it since definitions, currency, and coverage vary. The American Political Science Association has collected data on placement of political scientists for several years and has issued a series of reports (Mann 1976b, pp. 412-413). While the overall placement record in political science for the past five years has been stable, changes have taken place in the pattern of placements. More positions are temporary and more positions are going to those with doctorate in hand. Experienced faculty members must return to the market because their initial positions were "temporary", but no increase has been noted in the number of political scientists entering nonacademic positions.

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The Modern Language Association (MLA) (1975, pp. 2-4) reported their survey of departments in May 1975. At that time, fewer than 25 percent of the Ph.D.'s and candidates who sought academic positions in English and modern language departments for fall 1975 had found one. The nationwide profile of English departments (based on responses from 35 of the 50 surveyed) suggests a large production empire feeding an uncertain market. During the 1974-75 academic year, these departments admitted 1,800 new graduate students to doctoral programs in English. Nationally, there were 6,000 graduate students in English, of whom 4,000 were in doctoral programs; 550 were to receive their Ph.D.'s in 1975. When new people are added to the number known to be seeking positions because of previous failure to find one, the total builds to 762 actively seeking academic employment. By May 1975, 170 (22 percent) had found regular, tenure-accruing appointments.

For a different perspective, the American Institute of Physics (1977) calculates ratios of employers to registrants at the placement center during their annual meeting. This figure varies from .42 in 1967 to .07 in 1973, with a slow climb back to .22 in 1977. Thus, there were slightly more than ten applicants for each listed position in 1973 and only five to one in 1977. These figures from individual disciplines suggest the disparity between supply and demand evident in several fields.

A broader view of the problem can be had from data reported by the National Research Council (Gilford and Syverson 1977), which was collected through graduate deans from individual doctorate recipients in the U.S. during the period July 1, 1975 through June 30, 1976. In the survey, respondents are asked to indicate their employment plans following receipt of the degree. In every general category, the proportion of respondents still seeking employment increased in comparison to a base year of 1969 (p. 5). For doctorates in the arts and humanities the proportion still seeking employment increased from 14 percent in 1969 to 35 percent in 1976. Large changes have occurred within other fields. For example, in 1976 the number of doctorates awarded in mathematics was 5.8 percent smaller than in 1969, but a 26 percent increase appeared in the number of mathematicians still seeking employment and 20 percent fewer had definite employment plans. The life sciences provide one bright spot: the number of doctorates has grown but the proportion seeking employment has remained stable (p. 5). In short, the professional society and NRC placement data confirm that many Ph.D.'s are encountering obstacles to employment, with individual and field-by-field variation.

Interpretations of three other sets of data indirectly confirm this image of Ph.D. job-market distress. If students perceive graduate study as a form of investment leading to career success, enrollment figures might reflect the level of confidence in the pay-off from graduate study. Recent figures based on surveys of member institutions of the Council of Graduate Schools show a decline in total graduate school enrollment and in first-time graduate enrollment for all fields except the biological sciences (Somerville 1977, pp.

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2, 5, 6). Another indicator, salaries for individuals with doctorates holding academic positions, may reflect a market sense of the availability of manpower for faculty positions (Freeman 1976, pp. 90-91). Rising salaries would imply high demand and low supply. The average academic year salaries of professors rose during the sixties (to 2.37 times the calendar year annual earnings of full-time workers) but by 1974 they fell to 2.18 times the average salary. According to data provided by Committee Z of the American Association of University Professors, while the purchasing power of compensation for the average employee is 3.5 percent more than it was ten years ago, purchasing power of average faculty compensation is worth 5.5 percent less (*No Progress This Year* 1977, p. 3). One more indicator of job market malaise is a disruption in "sorting pattern" for new doctorates. Freeman (1976, p. 93) asserts that Ph.D.'s from highly-rated institutions are now going to lesser-rated institutions, thereby risking their academic prestige while possibly improving quality at the "lesser-rated" institutions; however, they are displacing Ph.D.'s who have graduated from lower-rated institutions. These placement figures and indirect indicators can be interpreted as showing a softening in the current market for Ph.D.'s, with severe imbalances in specific fields.

Projections of Future Conditions

Available job-market projections for Ph.D.'s portend a gloomier future. Consider the 1975 Bureau of Labor Statistics projections. Bureau projections are based on assumptions that the level of demand for higher education, employment of Ph.D.'s in our society, and relative wages to doctorates will remain stable (p. 4). The Bureau begins with the available data on the current employment patterns. In 1972, 335,000 doctorate-holders were employed. About 70 percent were employed by educational institutions, 15 percent working in industry or self-employed. This distribution was the same as 10 years earlier. In the arts and humanities only 5 percent of Ph.D.'s were employed outside educational institutions. The majority of Ph.D.'s are teachers, although distribution of work activity varies by field (p. 7). In 1972, distinctive employment activities were evident that "required" a Ph.D. or that were "Ph.D.-type", although the BLS projectors acknowledge that these perceptions may broaden as the supply of Ph.D.'s increases.

Since teaching and research formed the predominant work activities of Ph.D.'s in 1972, demand projections were built on economic and social factors influencing those activities. The demand for Ph.D.'s as faculty members derives from student enrollment (which reflects the number of young people in the population and the proportion attending college) and reflects the pupil-faculty ratios and doctorate-faculty ratios (p. 10). By 1985, if current ratios hold, approximately 71 percent of new faculty hires will have a doctorate (10 percent in community colleges). The demand for Ph.D.'s to do research reflects the amount of money available for new research efforts. Considering these trends and influences, the BLS expects demand for Ph.D.'s to increase by 42 percent by 1985, or 1.75 times as fast as total employment demand. In terms of numbers, the BLS expects there to be a need for 187,000 doctorates between 1972 and 1985, or about 14,000 each year (p. 13). Unfortunately, enrollment projections lead the BLS to expect 580,000 new Ph.D.'s to be seeking employment in that period. The Bureau concludes "if present trends continue in patterns of use of Ph.D.'s relative to other workers and in the proportion of persons obtaining doctoral degrees, by 1985 more than twice as many Ph.D.'s would be available for work in Ph.D.-type jobs as there are jobs" (p. 15). This surplus is not expected to produce great unem-

ployment of these Ph.D.'s, but rather *underemployment*. "Employment in a job requiring less skill than the worker has acquired—with its inherent job dissatisfaction, may be widespread" (p.16). "Bumping" will occur when Ph.D.'s replace master's degree holders, M.A.'s replace baccalaureate holders, and the college-educated replace those with high school diplomas.

Rosenthal (1976, p. 48-49) updates these BLS figures and offers some ratios of new Ph.D. supply to job openings for the period 1974-1985:

Field	Ratio of Supply to Demand				
All Fields	Supply 2 times larger than demand				
Engineering	"	4%	lower than demand		
Chemistry	"	25%	higher than demand		
Physics	"	85%	"	"	"
Life Sciences	"	75%	"	"	"
Social Science & Psychology	"	80%	"	"	"
Mathematics	"	2	times higher than demand		
Arts and Humanities	"	5	"	"	"
Education	"	3	"	"	"
Business and Commerce	"	8	"	"	"

An extended discussion of the present and projected academic labor market for Ph.D.'s was prepared by Cartter (1976a). In his judgment, the future for new doctorate holders will be anything but steady. "Radical changes in conditions lie ahead that will tax the ingenuity of faculties, academic administrators, and public officials. While the 1970's appear to be reasonably stable, the 1980-1995 period, due to demographic conditions, promises to be unlike anything we have faced before" (p. 3). From 1957 through 1967, enrollments in higher education grew at an average rate of 7.75 percent; after 1967 the rate of growth was 4 percent per annum (p. 1). (Grand total enrollment in 1976 for four-year colleges and universities declined for the first time since 1952. The decline of .8 percent was accompanied by an unexpected decline of 3.2 percent in part-time students (Parker 1977, pp. 2, 9).) Enrollment changes are highly significant because a fairly small proportional change in collegiate enrollment results in marked changes in the demand for new faculty members.

Looking ahead to 1980-1994, Cartter expected a 25 percent decline in the size of the traditional college age cohort (based on known demographic data (p. 222)). Then, using past patterns, Cartter estimated that between 1962 and 1972, 27,000 junior faculty were hired annually; he projected that 16,000 would be hired annually between 1972 and 1982; and between 1982 and 1992 fewer than 10,000 would be hired each year. The current graduate school production capacity for doctorates is 40 to 45,000; so even if three-fourths of new faculty had doctorates, only 12,000 would be hired in the next few years and only 7,500 would be hired from 1980-85. Thus, Cartter projected the academic demand for doctorates to be not more than 35 percent of the potential output capacity of graduate schools, 20 percent during the 1980's (p. 223). The impact of this oversupply would vary sharply by field. Most of the impact would fall on humanists, since most doctorates in the humanities traditionally have entered the academic market (p. 224). Expecting some decline in actual doctorate production, Cartter projected one-third more Ph.D.'s than needed in the late 1970's and 50 percent more than needed in the 1980's. Doctorate production already in the works will peak between 1981 and 1985, when the potential for academic employment will be at

its lowest (p. 238). Cartter's data bring to mind Vetter's summation of several other projections: "these projections have in common one major finding: the number of persons trained to the doctorate level will exceed the number of job openings requiring such expertise, with the oversupply being of considerable magnitude" (Vetter 1977b, p. 116).

What To Do?

This review of the current and projected labor market for Ph.D.'s suggests that action is required by those involved with graduate education. Helen Astin (1977) describes steps that might bring change to the situation. Institutions might allocate their resources to programs where job prospects are brightest. Departments and schools can study their recruiting and placement practices. Foundations and the Federal Government can support efforts to study the problem (p. 40). Many commentaries seem to reflect conviction that the problem will work itself out through reliance on the market response and continued free-choice by students, rather than through use of a manpower planning approach (see Bowen (1973) for a comparison). Most suggestions stress that students must have better information on placement prospects within the disciplines. Although dependence on the market response to imbalances may cause temporary discomfort to individuals and organizations, the process of adjustment, substitution, and accommodation it foments is stable in the long run (Dresch 1976, pp. 40-42).

One adaptive mechanism is to study the problem. The Higher Education Research Institute (HERI) (no date) is studying career opportunities and job experience of doctorates in the humanities with the premise that job activity of humanities doctorates will help lead to a new career options and provide better information for current and prospective students (see also Harrison 1976; May 1976; and Acknowledgments).

Professional societies are taking new initiatives. Benderly (1977) reports that professional and learned societies are exploring ways to expand the traditional markets for their members and to develop new markets. Some societies have developed proposals with the intent of employing members directly. Other organizations are developing options so that their members can move into entirely new fields by applying the skills characteristic of doctorates regardless of field. (Contrast with Mariella and Ryan 1974). For example, the American Historical Association joined other professional societies in history to found the National Coordinating Committee on the Promotion of Historical Studies and the Employment of Historians. This group has formed national resource groups so historical tasks are promoted in organizations that in the past have made minimal use of historians. Another objective is to learn how skills of historians might be used in nontraditional settings (see "NCC Activities: An Update" 1977; "National Coordinating Committee..." 1976; "Thompson Reports..." 1977; Livengood 1976). Bowie (1977) acknowledges that after the job crisis became evident to the American Philosophical Association in the early 1970's, placement activity became a central concern. As off-shoot of this concern was a grant from National Endowment for the Humanities to study job prospects for philosophers in nonacademic fields (pp. 220-221). Manuals have been written to aid scholars in nailing down academic positions and to find new careers using their professional training (see Mann 1976a; Modern Language Association of America 1975, particularly Chapter V, "Alternatives to Teaching," by Jasper Neel).

The Problems of Attitude

The major change in response seems to be the recognition that, when looked at from new perspectives, the Ph.D. job crisis is a problem of attitude. First is the attitude socialized into graduate students by faculty members and fellow students that the only worthwhile vocational outcome for graduate study is an academic teaching or research position. Second is the attitude that work in industry or government is not worth much, is unethical, too political, not stimulating, or all of the above. Third is the attitude that graduate work leading to a Ph.D. is only preparation for teaching. Fourth is the failure of attitude when a student decides to seek a career outside academia but doesn't really try. Recognition of these attitudes leads to the point that the new Ph.D., much more than in the past, must accept responsibility for finding and developing career options. The skills and training acquired by the Ph.D., as a person, may be valuable to business or government, but being a Ph.D. in itself may not be. What a person can do must be translated into language that communicates outside graduate schools. Departments and professional societies can aid with better placement services, but new approaches, effort, and planning by individuals will be required to overcome the Ph.D. crisis (see Astin 1977; Benderly 1977; Bowie 1977; Bruser 1977; Committee on Women Historians 1975; Haas 1976; Harrison 1976; Mann 1976a; May 1976; Modern Language Association 1975; Trivett, Meredith and Sternick 1977; and Woodruff 1976.)

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